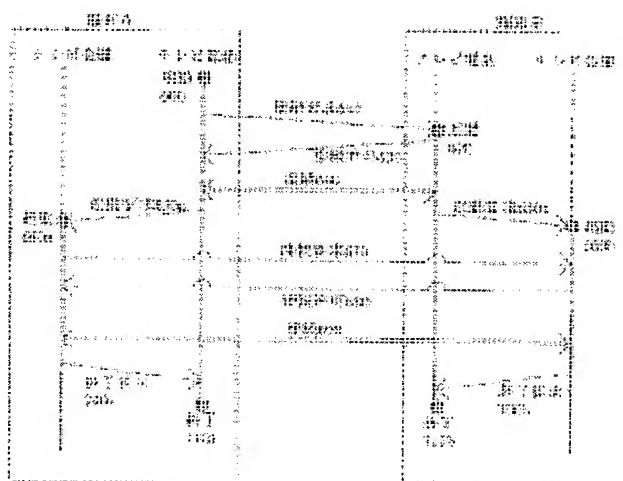


**COMMUNICATION MEANS CHANGING SYSTEM****Publication number:** JP7107171 (A)**Publication date:** 1995-04-21**Inventor(s):** HAYASHI TOSHIMITSU; ISHIZAKI TAKESHI; KINOSHITA SHIGEAKI; KAMEDA MASAMI; KITAHARA CHIHO; MORI KENJIRO**Applicant(s):** HITACHI LTD**Classification:****- international:** *H04M3/56*; *H04M3/56*; (IPC1-7): *H04M3/56***- European:****Application number:** JP19930247708 19931004**Priority number(s):** JP19930247708 19931004**Abstract of JP 7107171 (A)**

**PURPOSE:**To easily change to the other simultaneous communication means by storing information which can specify uniquely the other part of a communication in the course of conducting the communication by using the simultaneous communication means, and using its information.

**CONSTITUTION:**In the case of shifting to a video conference, a video telephone program outputs an actuation request 650 to a video conference program and actuates 660 the video conference program. The video conference program sends a connection request message 670 to the video conference program of a terminal of the other party, based on a user name and a terminal name contained in a message, and stores the user name and the terminal name of the other party in a video conference information table.; Subsequently, the video conference program which receives the connection request sends back a connection permitting message, and it is connected 690. In this case, the user name and the terminal name contained in the connection request 670 are stored in the video conference information table. Also, the video conference program of the respective terminals outputs an end request 700 to the video telephone program of the own terminal.

Data supplied from the *esp@cenet* database — Worldwide

\* NOTICES \*

JPO and INPIT are not responsible for any damages caused by the use of this translation.

- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.\*\*\*\* shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

## DETAILED DESCRIPTION

### [Detailed Description of the Invention]

[0001]

[Industrial Application]In this invention, text, speech information, video information, etc. are exchanged between the terminals connected in the communication network.

Therefore, it is related with the simultaneous-transmissive-communication means which can carry out a user, conversation, or information exchange of other terminals.

[0002]

[Description of the Prior Art]What is directly called for the program itself, and the thing which can participate on the way to the meeting directly existed in what is called the teleconference performed with a network terminal, and video conferencing. The channel with partner equipment was able to be connected by telephone dialing, and fax and an E-mail were able to be sent on the channel.

[0003]

[Problem(s) to be Solved by the Invention]When calling a partner at a teleconference etc., after having you consent to conference participation by telephone etc., a telephone is hung up once and it appeals for intervention from a teleconference. Or it was a method which calls conference participation suddenly.

[0004]The purposes of this invention are the demand communication persons which can be made to make the process of the intervention to a meeting more smooth and whose information exchange is possible without time difference like a telephone, and are to enable it to change a means of communication without re-specification of a communications partner.

[0005]

[Means for Solving the Problem]To achieve the above objects, this invention is memorized and enabled it to change easily into other simultaneous-transmissive-communication means information which can specify a communications partner as a meaning during communication using a simultaneous-transmissive-communication means using memorized information.

[0006]

[Function]Since the information which can specify a communications partner as a meaning during communication using a simultaneous-transmissive-communication means is memorized, the simultaneous transmissive communication of a present communications partner and means of communication can be changed and carried out, without re-specifying a communications partner.

[0007]

[Example]The workstation which incorporated the video telephone system and the video conference system as a different means of communication as one example of this invention hereafter is explained referring to drawings.

[0008]Drawing 1 shows the explanatory view of the video conference system which consists of the three workstations 10 (10-A, 10-B, 10-C) combined by the communication network 90. In order to indicate [ sound / an animation or ] by an input, the camera 60 (60-A, 60-B, 60-C), the loudspeaker 70 (70-A, 70-B, 70-C), and the microphone 80 (80-A, 80-B, 80-C) are attached to this workstation. A hand set (headphone with a microphone) may be used instead of a microphone and a loudspeaker. In the communication network 90, LAN (Local Area Network), ISDN (Integrated Services Digital Network) or FDDI (Fiber Distributed Data Interface) which is one of the high-speed LAN is applicable.

[0009]Drawing 2 is a block diagram showing the fundamental composition of the workstation 10 which realizes this invention. The input from the keyboard 20 is analyzed by the keyboard driver 110, the input from the mouse 30 is analyzed by the mouse driver 130, respectively, and it is sent to the program under execution on CPU120. The input from a camera and a microphone is analyzed by an appliance control driver, and is sent to the control program under execution by CPU120. The output to the loudspeaker sent through a network is sent to a

loudspeaker through an appliance control driver from the control program under execution by CPU120. CPU150 is executing the program stored in the main memory 140, and write the data stored on the disk 180 through the disk controller 160 if needed. [ reading and ] The processing result of a program is written in the frame memory 150. The controller displays 170 read the contents of the frame memory 150 periodically, and display them on the display 40.

[0010]The information about a program can be exchanged with the communication network 90 through the communication interface 100.

[0011]Drawing 3 shows the example 210 of a screen while using a TV phone. With a TV phone, speech information and picture information are exchanged at a mutual terminal, and the talk is made, looking at a partner's face as an animation mutually. It is displaying that this is a window of a TV phone on the title column 210. The image photographed with the partner's camera has projected on the animation 250. The partner's name 260 is displayed on the bottom of it. There are "teleconference" 230 and "end" 240 in the menu 220. If "teleconference" 230 are chosen, the window 310 for teleconferences which is shown in drawing 5 will open, an animation will be taken out in a teleconference, animation control and voice control will be moved to a teleconference, and a TV phone will be closed. "End" A TV phone will be closed if 240 is chosen.

[0012]Drawing 4 is a figure showing the information table 270 of a TV phone program. The terminal name 290 which can determine as a meaning a call partner's user 280 and the terminal which a call partner is using is stored in the information table 270. When using a TV phone, their name and terminal name are told to a partner's program at the time of connection. The received information is stored in this information table, and always has this information table during TV phone use.

[0013]Drawing 5 shows the example 310 of a screen while using a teleconference. A teleconference is a system for holding a conference using sharing of a sound, an animation, and data, etc. The difference from a TV phone is being able to perform bilateral work which used the function of data sharing, such as sharing of data. The meeting name which is in a current line is displayed on the title column 320. This meeting name is inputted by the user at the time of a meeting start. The menu column 330 has a file, a display, and a help, and the functions (for example, a file the end of a meeting and a display voice control etc.) related to each are in this menu. The image photographed with the partner's camera projects on animation 380-a and 380-b, and the partner's name is displayed on the bottom of it. The present time is displayed on the clock 340. It is for the blackboard 350 starting the share blackboard on which reading and a conference participant can write anyone freely, and a share blackboard carries out the duty of the blackboard usually used at a meeting, or a white board. OHP360 is for starting the bilateral work function for sharing data etc. A bilateral work function is a function in which the file which a certain individual has can be displayed on all conference participants, and all participants can perform input to a file, deletion, etc. for the displayed file. The telephone 370 is used for TV phone starting when you would like to use a TV phone during a meeting. The partner who made the TV phone can be made to participate in a meeting.

[0014]Drawing 6 is an explanatory view showing the information table 400 of a teleconference program. I get a user to input the name 410 of a meeting at the time of a meeting start, and the meeting start time 420 stores the time at that time in this information table automatically at the time of execution of a teleconference program. If 430 participants have stored the number of those who have participated in the meeting and it has the change in a participant, it will change each time. The participant information table 440 has stored information peculiar to each participant, and a participant's user name 450, the terminal name 460 which can determine as a meaning the terminal which the participant is using, the participant's conference participation time 470, etc. are stored.

[0015]Drawing 7 is an explanatory view of the message 480 exchanged by the TV phone program and a teleconference program. The code showing the kinds (for example, a program activate request, a connection request, etc.) of message is stored in the message type code 490. The message length 500 and the message main part 510 are stored after that.

[0016]Drawing 8 is a state transition diagram when shifting to a teleconference from a TV phone. A TV phone is started, and it is carried out in the following procedures until it completes the shift to a teleconference.

[0017]The partner point is specified and the TV phone program of its own terminal is started (Step 600).

[0018]The started TV phone program advances a connection request to the specified partner point (Step 610). At this time, a TV phone program stores the user name of the partner point, and a terminal name in the TV phone information table 270. The user name and terminal name which advanced the connection request are included in this connection request message.

[0019]A TV phone program is started in the terminal which received the connection request (Step 620).

[0020]If the user of a terminal who received the connection request gives the directions with which connection is permitted, a connection permission message will be returned (Step 630) and these TV phones will be

connected (Step 640). At this time, the user name and terminal name which were included in the connection request are stored in the TV phone information table 270.

[0021]"Teleconference" 230 in the menu 220 of drawing 3 are chosen to shift to a teleconference by a user's talks. At this time, a TV phone program advances an activate request to a teleconference program (Step 650), and starts a teleconference program (Step 660). Here, although both users may start a teleconference, it is enough that which or one person just starts. The partner's user name and terminal name in a current telephone are included also in the message of the activate request sent at this time.

[0022]The started teleconference program sends a connection request message to the teleconference program of a mating terminal based on the user name and terminal name which are included in the message (Step 670). The user name and terminal name of the partner point are stored in the teleconference information table 400. The user name and terminal name which advanced the connection request are included in this connection request message.

[0023]A connection permission message will be returned (Step 680) and the teleconference program which received the connection request will be connected, if the directions with which connection is permitted are received from a user (Step 690). At this time, the user name and terminal name which were included in the connection request are stored in the teleconference information table 400.

[0024]If connection of teleconference programs is completed, the teleconference program of each terminal will advance a terminating request to the TV phone program of its own terminal (Step 700), and a TV phone program will be ended (Step 710).

[0025]Drawing 9 is a state transition diagram until it makes a TV phone from a teleconference in use and a partner participates on the way to a teleconference. It carries out in the following procedures.

[0026]From a teleconference in use, by telephone 370, a partner is specified and the TV phone program of its own terminal is started (Step 750).

[0027]Then, Step 800 is similarly performed with Step 600 to the step 640 of drawing 8 from Step 760.

[0028]When the person who received the TV phone participates to a teleconference, "teleconference" 230 are chosen from the menu 220 of a TV phone. A TV phone program sends an activate request to a teleconference program (Step 810), and starts a teleconference (820).

[0029]Henceforth, it is the same as that of Step 670 or subsequent ones shown by drawing 8.

[0030]Drawing 10 is a state transition diagram until it gets a TV phone during teleconference use and the partner who has applied participates in a teleconference on the way. It carries out in the following procedures.

[0031]A partner is specified and a TV phone program is started (Step 850).

[0032]Then, Step 890 is similarly performed with Step 600 to the step 640 of drawing 8 from Step 860.

[0033]When the partner who has applied participates in a meeting, those who have applied choose "teleconference" 230 from the menu 220 of drawing 3. At this time, a TV phone program sends the activate request for starting a teleconference (Step 900).

[0034]Henceforth, it is the same as that of Step 670 or subsequent ones shown by drawing 8.

[0035]

[Effect of the Invention]According to this invention, when changing said means of communication and trying to communicate with the same terminal, a means of communication can be changed, without re-specifying a communications partner.

---

[Translation done.]